

**Note on the distribution of the American jack-knife clam
Ensis directus (Conrad, 1843) in N.W. Europe (Bivalvia, Cultellidae)**

Karel ESSINK

Rijkswaterstaat, Tidal Waters Division,
Hereweg 99A, 9721 AA Groningen, The Netherlands

The American jack-knife clam, *Ensis directus* (Conrad, 1843), was found for the first time on the eastern side of the Atlantic Ocean in 1979 (Von Cosel et al., 1982). It is assumed that larvae did cross the ocean in tanker ballast water. From the Elbe mouth area the species spread in northern as well as in south-western directions. In 1982 the species was present all over the Dutch-German-Danish Wadden Sea. The mechanisms responsible for this dispersal have been reviewed by Essink (1985).

Only in 1984 and 1985 the first records from coastal sites outside the Wadden Sea became available. In October and November 1985 shells were found on the beach at IJmuiden and Zandvoort-Bloemendaal (The Netherlands) by Messrs. J. de Ligst and F. A. Perk. The length of the shells (up to 115 mm) indicates that the species was already present off this coast in 1984, and possibly already in 1983.

In June 1984 Burger (1985) found shells of *Ensis directus* measuring up to 112 mm on the western as well as the eastern side of northern Jutland. Drs. K. Reise and U. Mühlenhardt-Siegel (personal communication) found shells up to 105 mm near Hirtshals (Denmark) in September 1985. The length of these shells indicates an age of two years before dying (Mühlenhardt-Siegel et al., 1983). The finding by Burger therefore implies that *Ensis directus* was present along the Danish west coast and in the Kattegat already in 1982.

From the data available it is clear that the dispersal of *Ensis directus* in a northern direction has been much faster than in a south-western direction. This is in agreement with the mechanism responsible, viz. residual currents in the North Sea and periodical windforce induced reversal of these residual currents (Essink, 1985). Fig. 1 summarizes all records of *Ensis directus* known to the author.

SAMENVATTING

De Amerikaanse zwaardschede *Ensis directus* (Conrad, 1843) heeft zich sinds het verschijnen in 1979 in de Duitse Bocht snel langs de kusten van N.W. Europa verspreid. In 1982 kwam de soort voor van Den Helder tot in het Kattegat. In 1984 waren populaties ter hoogte van Zandvoort aanwezig.

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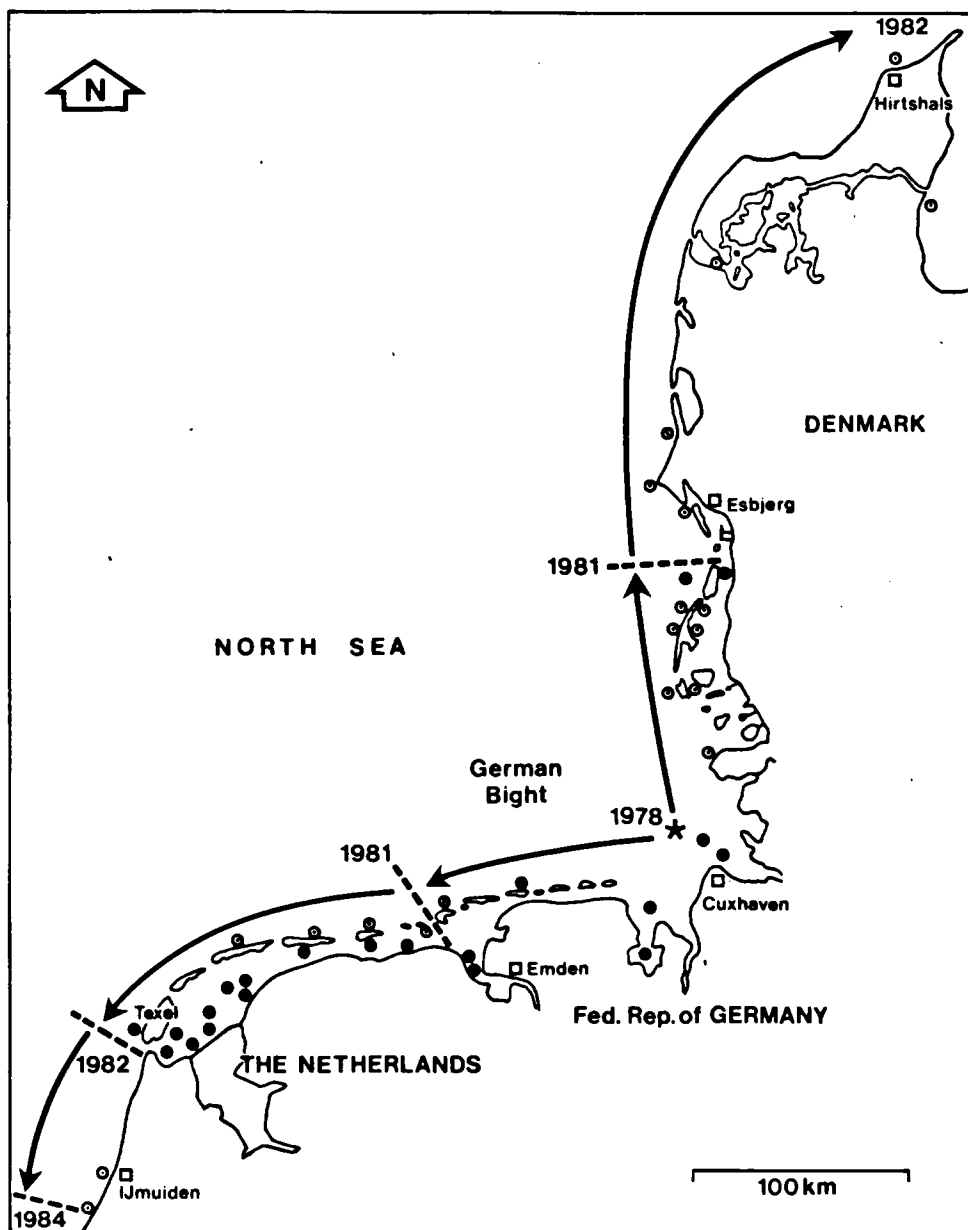


Fig. 1. Dispersal of *Ensis directus* in N.W. Europe; star = first record, dots = live records, circles = shells washed ashore.